

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A sheet sucking/removing method for sucking, ~~by suction cups,~~ an uppermost sheet among a plurality of stacked sheets, and separating the uppermost sheet from another sheet therebeneath, and removing the uppermost sheet, and conveying and supplying the uppermost sheet to a subsequent process, said method comprising:

carrying out the sucking/removing by ~~the suction cups-~~ a sucking device in a first negative pressure state in which a suction negative pressure of the ~~suction cups-~~device is a minimum pressure needed in order to suck and remove only the uppermost sheet; and

after the sucking/removing, carrying out the conveying/supplying by the ~~suction cups-~~device in a second negative pressure state in which the suction negative pressure of the ~~suction cups-~~device is a pressure needed for the conveying/supplying.

2. (currently amended): The method of claim 1, further comprising detecting the suction negative pressure of the ~~suction cups-~~device by a sensor, wherein setting of the suction negative pressure of the ~~suction cups-~~device in the first negative pressure state includes a step of opening to the atmosphere by operation of an electromagnetic valve, and setting of the suction negative

pressure of the suction ~~cups~~device in the second negative pressure state includes a step of controlling at least by the operation of the electromagnetic valve.

3. (original): The method of claim 1, further comprising:

detecting the first negative pressure state and the second negative pressure state by a sensor; and

in accordance with results of the detecting, controlling a vacuum pump connected to the suction cups.

4. (currently amended): The method of claim 1, further comprising:

starting the sucking/removing immediately at a point in time when the suction negative pressure of the suction ~~cups~~device reaches the first negative pressure; and

after the sucking/removing, starting the conveying/supplying of the sheet at a point in time when the suction negative pressure of the suction ~~cups~~device reaches the second negative pressure.

5. (currently amended): A sheet sucking/removing device for sucking an uppermost sheet among a plurality of stacked sheets, separating the uppermost sheet from another sheet therebeneath, removing the uppermost sheet, and conveying and supplying the uppermost sheet to a subsequent process, said device comprising;

a plurality of suction ~~cups~~suction device provided along a transverse direction of the sheet, and sucking/removing the sheet by negative pressure, and conveying/supplying the sheet;

a negative pressure generating source connected to the ~~respective suction cup~~suction ~~device~~, and generating a first negative pressure which is a minimum pressure needed in order for the ~~respective suction cup~~suction ~~device~~ to suck and remove only the uppermost sheet, and generating thereafter a second negative pressure needed for the conveying/supplying; and

a negative pressure controlling device which is capable of controlling the suction negative pressure of the ~~respective suction cup~~suction ~~device~~ to a state of the first negative pressure and a state of the second negative pressure,

wherein the suction negative pressure of the ~~respective section cup~~suction ~~device~~ is controlled to the first negative pressure by the negative pressure controlling device and the sucking/removing is carried out by the ~~respective suction cup~~suction ~~device~~, and after the sucking/removing, the suction negative pressure of the ~~respective suction cup~~suction ~~device~~ is controlled to the second negative pressure by the negative pressure controlling device and the conveying/supplying is carried out by the ~~respective suction cup~~suction ~~device~~.

6. (currently amended): The sheet sucking/removing device of claim 5, wherein the negative pressure generating source includes a vacuum pump connected to the ~~suction cup~~suction ~~device~~ via a conduit.

7. (original): The sheet sucking/removing device of claim 6, wherein the negative pressure controlling device comprises an electromagnetic two-way type valve and a variable throttle valve equipped with a check valve, and the electromagnetic two-way type valve and the variable throttle valve equipped with a check valve are connected to the conduit.

8. (original): The sheet sucking/removing device of claim 7, further comprising a sensor switch which is capable of detecting the first negative pressure and the second negative pressure, and which can operate the electromagnetic two-way type valve.

9. (original): The sheet sucking/removing device of claim 5, wherein the sheet sucking/removing device is applicable to an automatic printing plate exposure device.

10. (new): The method of claim 1, wherein the sucking device comprises one or more suction cups.

11. (new): The sheet sucking/removing device of claim 5, wherein the sucking device comprises one or more suction cups.